Date: Mon, 7 Feb 94 08:13:34 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V94 #120
To: Info-Hams

Info-Hams Digest   Mon, 7 Feb 94   Volume 94 : Issue 120

Today's Topics:

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 6 Feb 1994 14:42:42 GMT
From: netcomsv!netcomsv!bongo!julian@decwrl.dec.com
Subject: Antenna Erection Aids
To: info-hams@ucsd.edu

 Recently, there was much correspondence about getting antennas
up in trees. Short of hiring a trained monkey, there are various ways
of getting a line up on a high limb. The favourites seemed to be: bow
and arrow or catapult (sling shot) and spinning (fishing) reel with a
weight.

 The most compact and least troublesome is the catapult and
fishing reel combo. It is small and allows you to reel the line back.
For the standard anti-social contester, it also means being able to do
it alone, so you don't have to be nice to your neighbours or fellow
hams so they will help you get that top band dipole up.

The bow and arrow solution can use a fishing reel, but usually involves a second person to hold a rod and line while someone does the Robin Hood stuff. The second person often ends up being a grumpy spouse who needs no further persuasion that amateur radio is a waste of time, money and useful house space.

For those appliance operators that would like the catapult and reel option but lack the motivation or skills to attach a $10.00 reel to a $10.00 catapult with $00.02 of duct tape there is a solution.

For only $39.95, you can buy a fishing reel catapult combo designed for the job. Call Chicago's Telecom Expert, 812 Nerge Road, Roselle, Illinois 60172. Phone (708) 980-7710 (24 Hours). Order the "Sling-A-Line". All the usual credit cards accepted.

--
Julian Macassey, N6ARE julian@bongo.tele.com Voice: (310) 659-3366
Paper Mail: Apt 225, 975 Hancock Ave, West Hollywood, California 90069-4074

Date: Sat, 5 Feb 94 22:37:00 -0005
From: wyvern!select!edellers@uunet.uu.net
Subject: Antenna Lawsuit
To: info-hams@ucsd.edu

Carole L. Hamilton <clh6w@faraday.clas.Virginia.EDU> writes:

>Sorry but I have to ask this question: Do you really think that
>discrimination against a person merely because he has black
>skin or because she is a female is the same as discrimination
>against someone who wants to put a radio antenna?

Yes. Both restrictions are based on irrational behavior against someone who is not committing harmful acts.

   Cam-GOLD v1.00:

Date: Sat, 5 Feb 94 22:35:00 -0005
From: wyvern!select!edellers@uunet.uu.net
Subject: Antenna Lawsuit
To: info-hams@ucsd.edu

Carole L. Hamilton <clh6w@faraday.clas.Virginia.EDU> writes:

>That's a very fine distinction. The government runs the court system. If
>I win my law suit I can get the sherrif to remove your radio tower.
>If that's not the government enforcing my rights, it sure walks like a duck.
>73, Ned AB6FI

It may sound like a "fine distinction" to you, but it's a very real one.

If I commit a crime against you, you can call the police and have me arrested; the DA prosecutes and I end up in jail. This takes NO effort or expense on your part except for talking to the cops and the DA's investigators and for testifying against me in court.

In a civil case, YOU have to file the suit and hire the lawyers. If the court rules against me and I defy the order, YOU have to go back to court to get an order directing the sheriff to enforce the original order, again with your own legal counsel at your own expense.

-- Ed Ellers, KD4AWQ

   Cam-GOLD v1.00:

Date: Sun, 6 Feb 94 05:45:00 -0005
From: wyvern!select!dan@uunet.uu.net
Subject: Guns and O2 (was Re:
To: info-hams@ucsd.edu

myers@pongo.West.Sun.COM (Dana Myers) writes:

> In article <2irn94$rsj@sugar.NeoSoft.COM> xraytech@sugar.NeoSoft.COM (A great
> >In article <2irhk2INNbna@abyss.west.sun.com>,
> >Dana Myers <myers@pongo.West.Sun.COM> wrote:
> >>
> >>Now, back to amateur radio concerns...
> >> * This Extra supports the abolition of the 13 and 20 WPM tests *
> >
> >Why not abolish ALL testing. It seems to me that's what most of the
> >whiners want anyway, right?
> >
>
>
> Does anyone else suspect that Robert Coyle (WA3J) is back?

I was thinking the very same thing, just not enough to mention it!

Dan Pickersgill N8PKV - dan@mystis.wariat.org - ac447@po.cwru.edu

---
   Cam-GOLD v1.00:

Date: Sun, 6 Feb 94 05:55:00 -0005
From: wyvern!select!dan@uunet.uu.net
Subject: Robert is back (?) (w
To: info-hams@ucsd.edu

myers@pongo.West.Sun.COM (Dana Myers) writes:

> In article <CKoDx2.ALv@ucdavis.edu> ez006683@chip.ucdavis.edu (Daniel D. Todd
> >A great x ray technician! (xraytech@sugar.NeoSoft.COM) wrote:
> >
> >: Why not abolish ALL testing. It seems to me that's what most of the
> >: whiners want anyway, right?
> >
> >Dianne, if you had read my previous post before hitting the 'followup'
> >key you'd know what most of the 'whiners' want.
Only when you misquote them.

>
> It appears that "Robert" Robert Coyle WA3J is back, this time
> attempting to hide behind some "Great X-ray technician" moniker.
> The mention of "Dianne" is the attribution of a quote in his
> ".signature", though we know Robert would rather be anonymous
> and just stir up trouble, like most jammers. So, just like
> the way jammers should be dealt with, ignore Robert's pathetic
> attempts at attention.

You are SO right! With the salvo fired right at me, I should have seen
it. My appologies to the Net. (Not to Robert!)

Dan Pickersgill N8PKV - dan@mystis.wariat.org - ac447@po.cwru.edu
---
   Cam-GOLD v1.00:

Date: 5 Feb 1994 02:12:06 GMT
From: olivea!inews.intel.com!scdt!dbraun@uunet.uu.net
Subject: Shuttle STS-60 Ground Communications retransmission
To: info-hams@ucsd.edu

In article <3FEB199413132447@nssdca.gsfc.nasa.gov>, stocker@nssdca.gsfc.nasa.gov
(ERICH FRANZ STOCKER) writes:

|> The Goddard Amateur Radio Club (GARC) WA3NAN invites you to tune into
|> Shuttle transmissions. As a public service to the Amateur radio community,
|> the GARC retransmits space shuttle air-to-ground communications. During the
|> STS-60 mission, Amateur radio operators, shortwave listeners, and those
|> individuals with scanners can listen to these communications on the following
|> frequencies:
|>

Didn't the NASA Ames Radio Club (?) in the bay area also do this?
Will they be doing it this time? Waht freq?
-

 Doug Braun   Intel Design Technology
                                     408 765-4279

 dbraun@scdt.intel.com


```
                 / decwrl \
                 | hplabs |
 or maybe:      -| oliveb |- !intelca!mipos3!cadev6!dbraun
                 | amd    |
                 \ qantel /
```

"There is no human problem which could not be solved if
 people would simply do as I advise." -- Gore Vidal

Date: 6 Feb 1994 19:38:36 GMT
From: pacbell.com!sgiblab!swrinde!elroy.jpl.nasa.gov!usc!yeshua.marcam.com!
news.kei.com!newsstand.cit.cornell.edu!cu-dialup-0423.cit.cornell.edu!
user@network.ucsd.edu
Subject: starting campus radio club faq, need info
To: info-hams@ucsd.edu

Hello,
   I would like to start a FAQ for Collage Amateur Radio Clubs. If you know
of a radio club on campus could you send me some info about it. I m looking
for
  -Name of the Club
  -School
  -Address
  -Club Officers and email addresses if possible
  -Repeaters
  -Club station (Y/N) Callsign and what type of equipment
  -Organizations the club belongs to (ARRL, 10-10, etc)
  -Year started

  -#members
  -bands members can be found on
  -email address (if possible) of the club s listserver
  -a short history of the club

Even if you can t answer all the questions, oh well, its a start. I will
put the
info on a ftp site and/or post if people are interested.
Thanks,

-Jeff Luszcz N2TIQ
jrl2@cornell.edu
Cornell Amateur Radio Club W2CXM

Date: Fri, 04 Feb 1994 13:34:12 -0500
From: ftpbox!mothost!lmpsbbs!NewsWatcher!user@uunet.uu.net
Subject: TS850 & PK-232MBX
To: info-hams@ucsd.edu

In article <hawley.760296961@aries>, hawley@aries.scs.uiuc.edu (Chuck
Hawley) wrote:

> COLERK%snypotvx.BITNET@CUNYVM.CUNY.EDU writes:
> >Well I've tried just about everything I can think of...I'm attempting to
> >use the PK-232 with my TS-850.....problem is an awfull lot of rf getting
> >back into the Kenwood. I've tried shielded cable, additional grounding
> >straps between both units, shorter lengths of cable - no luck. Anyone
> >have a clue as to how to eliminate the unwanted rf? Seems I might of saw
> >a posting here addressing this very problem but not sure. Thanks in
> >advance for any replies, 73...Roger/N5IFH
>
> I use the FT240-77 ferrite toroid from Amidon to remedy rf getting into
> things thru hookup cables. The 240 size is big enough to get even line cord
> plugs thru it. Try to thread about 10 or so turns through the toroid with the
> toroid ending up right next to the 850 (or whatever device you're trying to
> keep the rf out of...works great with tv line cords!).
> There is a mod to reduce the 850's audio data input sensitivity (that's the
> input at the rear din connector), but I have found the choke to work well
> instead. Bundle all the leads together, no need to have a separate toroid
> for each cable. Amidon Assoc. ph# 310-763-5770.
>
> Chuck Hawley
> KE9UW

OK folks, now that the discussion has gone astray, let's fix the real
problem, not the symptoms! The problem is excessive RF, probably due to a

mismatched antenna system. Toroids will possibly reduce the RF running around on the common ground wires, but the first step should be to eliminate the RF, not the interference. Find out WHY there is so much RF in the air:
1) If you aren't using a tuner and balanced feed on a dipole, you should be;
2) If you have only one ground wire on the transceiver, try multiple runs of varying lengths to eliminate resonances;
3) Ground NOT to the AC wall outlet but to a REAL (cold water pipe) ground. Otherwise you couple RF into EVERY device that has a 3-wire cord.
I'm sure there will be several others, including Gary Coffman, who can add to the list of ways to reduce the amount of RF floating about. Then you won't need to worry about the toroids. BTW, you DO need one per cable, otherwise you couple the RF from one lead onto all the others. Remember, a toroid is a one-turn transformer, so all leads share equally in the currents!
--
Karl Beckman, P.E. < STUPIDITY is an elemental force for which >
Motorola Comm - Fixed Data < no earthquake is a match. -- Karl Kraus >

The opinions expressed above aren't even claimed by the author!
Amateur radio WA8NVW @ K8MR.NEOH.USA.NA NavyMARS VBH @ NOGBN.NOASI

Date: Sun, 6 Feb 1994 18:05:58 GMT
From: pacbell.com!sgiblab!swrinde!emory!kd4nc!ke4zv!gary@network.ucsd.edu
To: info-hams@ucsd.edu

References <Anthony_Pelliccio-020294104608@138.16.64.8>, <2itt8qINN3q@cronkite.Central.Sun.COM>, <CKpy6n.4F7@news.direct.net>
Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)
Subject : Re: "Flexible" 9913 (Was - Re: Coaxial cable)

In article <CKpy6n.4F7@news.direct.net> kg7bk@indirect.com (Cecil Moore) writes:
>Steve Bunis SE Southwest Chicago (doc@webrider.central.sun.com) wrote:
>: > Some other things to keep in mind about 9913. Remember that you'll need
>: > special UHF N connectors if you plan on using the cable for UHF
>: > applications.
>
>: Also, regarding the N connectors, at what point do they start making
>: a discernible difference? I thought that NMO was supposed to do well
>: at least past the 70cm. band. -- Steve Bunis
>
>My dual-band 2x4MAX Comet has an so239 connector on it. Just how bad
>is a pl259 connection on UHF? Should I use an N to so239 adapter? I
>use 9913 on HF with pl259s and some copper tape.

The problem with SO239, and the mating PL259, connectors is that they aren't 50 ohm impedance connectors. Therefore they represent an impedance bump on the coax that can affect VSWR. *However*, their impedance mismatch can be *absorbed* into radio or antenna matching networks by competent designers. Therefore, the coax sees a match even though the connector in isolation would present a mismatch. So it's OK to have them at the endpoints of a line *if the equipment is designed for them*. Having them in the middle of a line (like with jumpers) is bad news. Same thing with NMO, the antenna is *designed* to use this connector/mount and absorbs it's impedance into the network. Don't worry, be happy, these connectors are OK in good designs. However, beware, there are companies who try to pass off CB mounts for VHF/UHF. Those will kill your signal due to excessive capacitance between inner and outer conductors. I bought one "70cm groundplane" antenna that was an effective dead short at 70 cm due to the 1/4 inch stud whip mount having only 1/16 inch insulated sleeve between the stud and the plate mount.

Gary
--

Gary Coffman KE4ZV	You make it,	gatech!wa4mei!ke4zv!gary
Destructive Testing Systems	we break it.	uunet!rsiatl!ke4zv!gary
534 Shannon Way	Guaranteed!	emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244		

Date: (null)
From: (null)
>Let me state it again...for vertical antennas, a half wave vertical has more
>gain than a quarter wave vertical, a 5/8 wave has more gain still, a 3/4 wave
>has more yet, and so on...But how does the gain change if fed from the center
>or off center like a Zepp (don't I remember something about them having a gain
>of 1.66 over a dipole or something like that...probably wrong).

Feedpoint location is irrelevant for pattern calculations of halfwave radiators, that's strictly a matching issue. (In practice, different matching systems can impact antenna *system efficiency*, but that's a separate issue. The relevant formula for vertical radiator field strength at a given angle from the vertical is

```
E=((60*I)/(D*sin(2*pi*h/L))*
                      ((cos((2*pi*h/L)*cos(phi)))-(cos(2*pi*h/L))/sin(phi))
```

Where E is field intensity in mV/m,
I is antenna base current in amperes
h is length of antenna in meters
L is wavelength in meters
D is distance from the antenna is kilometers,
Phi is the angle from the vertical of the radiation

If you run this equation for a family of antenna lengths, you'll find
that maximum radiation perpendicular to the antenna (toward the horizon)
occurs at an antenna length of 0.639 wavelengths. This was worked out
in 1935 by Gihring and Brown, "General Considerations of Tower Antennas
for Broadcast Use", Proceedings of the IRE, vol 23, pp.311-356, April, 1935.

>But, we have to remember for a vertical antenna at given frequency, as the length
>of the radiating element increases the angle of radiation rises. And since it is
such
>a theoretical nightmare to compute real world RF patterns we talk about
theoretical
>perfect situations over perfect grounds and then compare those to the real world
ones
>in the ARRL Antenna Handbook and other such material. I don't know too many Hams
who
>can setup an acre of land with 120 radials spaced equaly around in a circle, seed
the
>ground with the proper amound of rock salt, and do the rest to make as perfect of
>ground as possible (this is suppose to work for Yagi/Quad beams on towers too).
Wish
>I had the place to do this...or is it 100 acres?

Well we broadcasters do, and the angle of maximum radiation does *not*
rise monotonically with increasing length. In fact, starting with a short
antenna, it *decreases* until a length of 0.636 wavelength is reached, and
then increases back toward the short antenna case as length increases further
until it reachs the *same* value at 0.75 wavelength as it had at 0.25
wavelength. Beyond 0.75 wavelength, the pattern breaks into minor lobes
and gain perpendicular to the antenna continues to decrease. A vertical
antenna 0.639 wavelengths in height has the *maximum* broadside gain of
any simple vertical.

Data from _Reference Data for Radio Engineers_, 4th edition, pp.672-673.

>>>It is not true that a 5/8 wave vertical is the highest gain vertical.
>>>What it is is the best compromise for the gain and angle of radiation. As the
>>>vertical element, or any element for that matter, gets longer for a given
>>>wavelength the major lobe/lobes eminating from the antenna start skeewing(sp)
>>>towards the far end of the antenna. This is why long wire antennas several wave
>>>length long at a given frequency are directional antennas. And, why Rhombic
>>>antennas are a combination of this characteristic.
>
>>Well that's almost true anyway. The 5/8 wave vertical over real
>>ground has the best gain perpendicular to it's axis of any *simple*
>>vertical antenna. Stacked and phased sections can have more gain
>>toward the horizon. Really long antennas develop minor lobes and

>>have their power directed in multiple undesired directions.
>Gary
>
>Gary, I agree that stacked dipoles develope more gain than single ones. And
>their radiation pattern is perpendicular to the direction they are setup,
>normally in a vertical configuration although I believe a collinear array
>is an example of horizontally polarized broadside dipole array with stubs
>to bring their patterns into phase and combine to make a higher gain signal.
>(now how is that for a run on sentence). But, on page 8-32 of the 1991 ARRL
>Antenna Handbook they list the theoretical power gain of various 1/2 wavelength
>collinear arrays...
> ' 2 collinear elements---1.6 db
> 3 collinear elements---3.1 db
> 4 collinear elements---4.2 db '
>   ARRL Antenna Handbook, 16th Edition
>
>On page 8-24 of the same book is listed a 3 element, 1/4 wavelength vertical
array in a line,
>1/2 wavelength appart, each being fed with 3/4 wavelength coax phasing line to
bring them into
>phase. It is not clear weather this is a broadside of end fire (think that is the
correct term)
>array. Gain figures are states as follows...
>
> ' If the element currents are equal, the resulting pattern has a foward gain of
5.7 db
>(for lossless elements) ... If the currents are tapered in a binomial coefficient
1:2:1 ratio
>(twice the current in the center element as the two end elements), the gain drops
to 5.2 db, the
>main lobes widen, and the side lobes disappear. ... '
>   ARRL Antenna Handbook, 16th Edition
>
>
>This seems to indicate that it is possible to get more gain from 1/4 wavelength
verticals than
>from 1/2 wavelength elements in a vertical or horizontal pattern. Hum... I would
be the first to
>admit antenna theory makes my head spin sometimes but when the ARRL says a 4
element horizontal
>colliniear array has less gain that a 3 element 1/4 wave vertical array, I tend
to believe it. I
>may not understand all the wherefores and as such but I tend to believe them.

Yeah, well that's because you're comparing apples and oranges. In the
case of the endfire 3 el array, the horizontal pattern is a figure 8.
In the case of the colinear vertical array, the horizontal pattern is
omni-directional. Both have a compressed vertical pattern, though the

colinear is much more compressed (that's where it gets *all* it's gain).
Compressing the pattern in *two* planes naturally gives more gain than
only compressing it in one, but forms a *directional* vertical antenna
rather than an omni-directional antenna. Apples and oranges. (Note too
that the example colinear has *zero* spacing between elements. That's
the lowest possible gain stacking arrangement. See your Cushcraft 4-pole
numbers for vertical elements stacked with 1/2 wave spacing. Much higher
gain.)

>On page 2-23 of the same text...
> ' ...An infinitely thin 1/2 wavelength dipole has a theoretical gain of 2.14 db
>over an isotropic radiator (dBi)... '
>   ARRL Antenna Handbook, 16th Edition
>And I know that the thinner the dipole the higher the Q of the resonant circuit,
so an "infinitely
>thin" dipole has the highest Q. In other words, the highest gain. This is why a
Quagi, quad driven
>element and reflector with dipole directors has more gain theoretically than a
quad with the same
>boom length. (I have a love/hate relationship with quads) Higher Q elements.

No. Gain and Q are not directly related. A quad loop has a lower Q
than a dipole element, that's one of it's features, greater bandwidth,
but a 2 el quad has more gain than a 2 el yagi, about the same as a
3 el yagi in fact. That's because a loop has a bigger capture area,
and antenna gain is related to capture area by the following formula

G=(4*pi*A)/L^2

Where G is gain,
A is aperture area,
L is wavelength.

>I haven't been able to find a gain figure for a single 1/4 wavelength vertical in
the ARRL Antenna
>Handbook. Looking through the Amateur Radio Supply catolog(Winter 93/94) it is
easy to see how gain
> figures vary.
>Having had some experience with Cushcraft antennas and believing they do their
homework, I quote
>some of their specs...
> ' Four Pole Array ... (stacked dipole for VHF/UHF ranges)...
> AFM-4DA...144-148 (MHz)... Gain, dBd ... (over a dipole) ... 9 Offset(?)...6
Omni...'
>   (page 107)
>   (that is a 4 dipole stacked array with 6 db gain over a dipole...sounds like
>   a bit of difference from the ARRL Handbook figures...4.2 db, so much
>   for homework)

Apples and oranges again. The 4-pole is a 1/2 wave spaced stacked array of halfwave dipole elements while the colinear you chose from the Handbook has *zero* spacing. Halfwave spacing gives a *much* sharper lobe, hence greater gain, than a zero spaced array. What they mean by offset and omni in the 4-pole spec is that the elements can be arranged all on one side of the mast (offset) for 9 dbd gain *in that horizontal direction*, or they can be staggered 90 degrees apart as they go up the pole for 6 dbd *omni* horizontal gain. Actually, this is a crummy antenna, and Cushcraft is always optimistic in their gain figures. A Comet stacked antenna is a better comparison.

Advertised antenna gain figures are generally measured by the marketing department, not the engineering department. That's why QST refuses to print them.

Gary
--

Gary Coffman KE4ZV	You make it,	gatech!wa4mei!ke4zv!gary
Destructive Testing Systems	we break it.	uunet!rsiatl!ke4zv!gary
534 Shannon Way	Guaranteed!	emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244		

Date: Sun, 6 Feb 1994 17:54:01 GMT
From: pacbell.com!sgiblab!swrinde!emory!kd4nc!ke4zv!gary@network.ucsd.edu
To: info-hams@ucsd.edu

References <CKM79r.45H@sunsrvr6.cci.com>, <2ire53$o2g@explorer.clark.net>, <2iui7p$vm@cascade.ens.tek.com>
Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)
Subject : Re: Vertical Antennas

In article <2iui7p$vm@cascade.ens.tek.com> t1terryb@cascade.ens.tek.com (Terry Burge) writes:
>In article <2ip6he$933@cascade.ens.tek.com> t1terryb@cascade.ens.tek.com (Terry Burge) writes:
>>>Just for the record, I will state it again. A ground plane antenna has higher
>>>gain than a vertical dipole. A quarter wave ground plane has a gain of some-
>>>where around 6 db over isotropic where a dipole has a gain of 2.14 db over
>>>isotropic at it's theoritical best. Gain in an antenna is directly related
>>>to it's RF pattern. I believe the reason a ground plane has more gain than
>>>a vertical dipole is because it has a more concentraited pattern like an
>>>elongated tear drop as opposed to the fat donut shape of a dipole.
[ke4zv]
>>Repeating false statements makes them no less false. A 1/4 wave vertical
>>over a *perfect* groundplane has *exactly* the same gain and pattern as

>>a 1/2 wave vertical. But alas, there are no perfect groundplanes in the
>>real world, so all real 1/4 wave verticals have less gain than 1/2 wave
>>verticals because of losses in the imperfect current mirror.
>
>>> As to weather an R5 or R7 are vetical dipoles or half wave verticals,
>>>I am no expert on them. I have never used one. But from everything I have
>>>read about vertical antennas, they must have a ground plane to mimic the
>>>other have of the antenna. Some systems utilize the shield of the coax cut
>>>to a certain length to do this I believe...seems some VHF/UHF antennas lend
>>>themselves to this. Other than that, ground rods would help as would sea water
>>>too.
[ke4zv]
>>A 1/2 wave antenna, it doesn't matter if it's fed in the middle or from
>>the end, doesn't require a current mirror, so it doesn't require a groundplane
>>or any other connection to ground. It's a resonant structure by itself,
>>there is no "other half" required. On the other hand, a 1/4 wave vertical
>>is self-resonant at *twice* the design frequency in the absence of a current
>>mirroring groundplane. So it must have a groundplane to function as a 1/4
>>wave vertical antenna at the design frequency.
>
>>> It is true that a half wave vertical has more gain than a 1/4 wave
>>>vertical.
[ke4zv]
>>What? You just stated otherwise above. Make up your mind.
>
>No I didn't, I said Half Wave Vertical, not dipole. You are the one who said
>there is no differance in gain weather it is fed in the middle or at the end.

That's right, because there *is* no difference in radiation pattern, and
hence forward gain. The only effect of feedpoint placement is different
impedances presented to the transmission line, a non-issue with proper
matching networks.

The relevant power formulas for isotropic (theoretical) and actual 1/2
wave radiatiors are

Isotropic P=Pt/(4*pi*R^2)

halfwave P=1.64*Pt/(4*pi*R^2)

Pt is transmitted power in watts
R is the perpendicular distance from the radiator in meters.

There is *no* distinction as to feed point placement.

End of Info-Hams Digest V94 #120

****
****